



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,332	12/02/2003	Toyohiko Mitsuzawa	Q78704	1375
23373	7590	10/22/2009	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			RILEY, MARCUS T	
			ART UNIT	PAPER NUMBER
			2625	
			MAIL DATE	DELIVERY MODE
			10/22/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/725,332

Applicant(s)

MITSUZAWA, TOYOHICO

Examiner

MARCUS T. RILEY

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2009.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
4a) Of the above claim(s) 10 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-9 & 11-13 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 02 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 12/02/2003; 09/14/2007; 11/05/2007
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 9, 2009 has been entered.

Response to Amendment

2. This office action is responsive to applicant's remarks received on October 9, 2009. **Claims 1-9 & 11-13** remain pending. **Claim 10** has been cancelled.

Response to Arguments

3. Applicant's arguments with respect to amended claim 1, filed on October 9, 2009 have been fully considered but they are not persuasive.

A: Applicant's Remarks

For Applicant's remarks see "*Applicant Arguments/Remarks Made in an Amendment*" see filed October 9, 2009.

A: Examiner's Response

Applicant argues that the cited references Kuriyama '634 in combination with Barry '711 and further in view of Vives '304 and Botten '984 do not disclose or suggest two print heads being equipped on the same carriage.

Examiner understands Applicant's arguments but respectfully disagree. Kuriyama '634 either alone or in combination with Barry '711 and further in view of Vives '304 and Botten '984 discloses teaches or suggest the Applicant's claimed invention. Vives specifically discloses or suggest two print heads being equipped on the same carriage. Vives at column 3, lines 15-33 explains where Printing #208 and optional printing unit 212 are on the same track heading the direction of #248 may be on the same carriage not shown. The carriage is shown in Fig. 5 and also depicted in Figure 4. Figure 4, #404 is the printing unit that contains the carriage. Moreover, column 6, lines 15-24 shows an alternate embodiment of a printer apparatus 400 which may use a carriage to support or carry printing units in Fig. 2. Thus, Kuriyama '634 either alone or in combination with Barry '711 and further in view of Vives '304 and Botten '984 discloses teaches or suggest the Applicant's claimed invention. As a result, Applicant's application is not in condition for allowance.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-7, 9-11 & 13** rejected under 35 U.S.C. 103(a) as being unpatentable over Kuriyama et al. (US 5,710,634 hereinafter, Kuriyama '634) in combination with Barry et al. (US 5,859,711 hereinafter, Barry '711) and further in view of Vives (US 6,663,304 B2 hereinafter, Vives '304).

Regarding claim 1; Kuriyama '634 a recording apparatus comprising (Fig. 2):

a first medium supply section (Fig. 2, Automatic Document Feeder #9) that supplies a recording medium to be recorded (i.e. A sheet of paper fed from a paper feed tray 9. Column 7, lines 66-67);

a second medium supply section (Fig. 2, Automatic Sheet Feeder #15) that supplies a recording medium to be recorded (i.e. A print paper feed tray 15 holds a stack of paper sheets for printing. Column 8, lines 5-6);

wherein the recording apparatus further comprises a clutch (Fig. 5, #219) disposed between the first medium supply section and the second medium supply section

wherein if the clutch is disengaged, the first medium supply section and the second medium supply section supply the recording medium independently, and wherein if the clutch is engaged, the first medium supply section and the second medium supply section cooperate to supply the recording medium (i.e. Fig's 14, 15, 16 & 17 shows the operation for printing data on a paper sheet fed from the ADF #9 and the ASF #15 when the clutch is engaged or disengaged. See also column 15, lines 11-38 and column 16, lines 12-31).

Kuriyama '634 as modified does not expressly disclose a first print head that is provided in correspondence with the first medium supply section and that performs recording on the recording medium supplied by the first medium supply section; a second print head that is provided in correspondence with the second medium supply section and that performs recording on the recording medium supplied by the second medium supply section, the second print head

being different from the first print head; wherein a first supply direction along which the first medium supply section supplies the recording medium with respect to the first print head is the same as a second supply direction (along which the second medium supply section supplies the recording medium with respect to the second print head).

Barry '711 discloses a first print head (Fig. 4, Imaging device #150) that is provided in correspondence with the first medium supply section (Fig. 4, #110) and that performs recording on the recording medium supplied by the first medium supply section (i.e. There are three parallel printers which include three print engines 136, 138 and 140, all stacked one on top of the other wherein #150 is representative of the imaging device. Images are formed on a medium and outputted to an output bin 40 in Figure 2. See column 6, lines 7-47);

a second print head (Fig. 4, Imaging device #150) that is provided in correspondence with the second medium supply section (Fig. 4, #112) and that performs recording on the recording medium supplied by the second medium supply section (i.e. Images are formed on a medium and outputted to an output bin 40 in Figure 2. See column 6, lines 7-47);

the second print head being different from the first printhead (i.e. Each print engine has its own imaging device #150 where images are recorded on a medium. #150 is representative of the imaging device in each print engine);

wherein a first supply direction (Fig. 4, i.e. Medium travels in the southwest direction from #108 of Print engine 136) along which the first medium supply section (Fig. 4, #110) supplies the recording medium with respect to the first print head (Fig. 4, Imaging device #150) is the same as a second supply direction (Fig. 4, i.e. Medium travels in the southwest direction from #108 of Print engine 138) along which the second medium supply section (Fig. 4, #112) supplies the recording medium with respect to the second print head (Fig. 4, Imaging device #150).

Kuriyama '634 and Barry '711 are combinable because they are from same field of endeavor of printer systems ("The present invention pertains in general to electrophotographic printers..." Barry '711 at column 1, lines 15-18).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the printer system as taught by Kuriyama '634 by adding a first and second print head as taught by Barry '711. The motivation for doing so would have been because it advantageous to save time and space by eliminating the need for multiple printers. Therefore, it would have been obvious to combine Kuriyama '634 with Barry '711 to obtain the invention as specified in claim 1.

Kuriyama '634 as modified does not expressly disclose wherein the recording apparatus further comprises a carriage that moves in a moving direction intersecting the first supply direction and the second supply direction, and wherein both the first print head and the second print head are equipped on the carriage.

Vives '304 discloses wherein the recording apparatus (Fig. 2, #202) further comprises a carriage (Fig. 5, #404) that moves in a moving direction intersecting the first supply direction (Fig. 2, #246) and the second supply direction (Fig. 2, #248) and wherein both the first print head (Fig. 2, #206) and the second print head (Fig. 2, #208) are equipped on the carriage (i.e. Fig. 4 shows an alternate embodiment of a printer apparatus 400 which may use a carriage to support or track 402 to carry printing units in Fig. 2. See also column 3, lines 15-33 and column 6, lines 15-24).

Kuriyama '634 and Vives '304 are combinable because they are from same field of endeavor of printer systems (*"The present invention relates to printers..."* Vives '304 at column 1, line 7).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the printer system as taught by Kuriyama '634 by adding a carriage as taught by Vives '304. The motivation for doing so would have been because it advantageous to have a faster and efficient printer. Therefore, it would have been obvious to combine Kuriyama '634 with Vives '304 to obtain the invention as specified in claim 1.

Regarding claim 2; Kuriyama '634 discloses a recording apparatus further comprising: at least two controllers (Fig. 62, Scanner Controller #2023 and Printer Controller #2022) each of said controllers being provide in one-to-one correspondence with one of said recording heads and for controlling the corresponding recording head (i.e. the Printer controller #2022 is for controlling the ink jet printer section 2001 and Scanner controller #2023 is for controlling the reading sensor R. Column 27, lines 41-67 thru column 28, lines 1-9).

Regarding claim 3; Kuriyama '634 discloses a recording apparatus further comprising: at least two information generators (Fig. 62, "JRA" and "R") each of said information generators being provide in one-to-one correspondence with one of said recording heads and for generating recording information for the corresponding recording heads, wherein each said recording head performs recording based on the recording information (i.e. "JRA" is the ink jet printer in correspondence with its recording head and generates a printout . "R" is the scanner in correspondence with its recording head and generates an output based on the recorded information. Column 3, lines 59-67 thru column 4, lines 1-9).

Regarding claim 4; Kuriyama '634 discloses a recording apparatus wherein said recording heads perform recording on said recording medium supplied from the corresponding medium supply sections in the order in which said recording information is generated by said information generators corresponding to each of said recording heads (i.e. The conveyer means has two output medium feed portions including respective feeding convey paths and one output medium ejection portion, wherein the feeding convey paths of the two output medium feed portions join into one ejection convey path reaching the output medium ejection portion; output means for recording or outputting information onto an output medium in accordance with output signals... reader means for reading recorded information which has been outputted onto an output medium. Column 3, lines 59-67 thru column 4, lines 1-9).

Regarding claim 5; Kuriyama '634 discloses a recording apparatus wherein each of said recording heads is capable of performing recording in different recording modes (Fig. 16, Step S37, i.e. Printing modes such as the size of the printing width, e.g., A 4 size or B 4 size, is conducted in Step S37. Column 16, lines 11-44).

Regarding claim 6; Kuriyama '634 discloses a recording apparatus wherein each of said medium supply sections comprises a driving section (Fig. 4, #207) for driving the corresponding medium supply section and when supplying a recording medium that is arranged across at least two of said medium supply sections, the driving sections of those medium supply sections across which the recording medium is arranged operate together to supply the recording medium (Fig. 4, i.e. The scanner section 20 and the printer section 30 have paper conveyor systems which are partly common to each other. These sections 20 and 30, including the commonly used sensor section 206 and the motor and driving section 207, are under control of the scanner /printer control section 202." Column 8, lines 62-67 thru column 9, lines 1-7).

Regarding claim 7; Kuriyama '634 discloses a recording apparatus wherein each of said medium supply sections comprises a supply section (Fig. 4, #202, The S/P Control Section include the paper conveyor systems - not shown) for supplying the recording medium, and a driving section for driving that supply section and when supplying a recording medium that is arranged across the supply sections of at least two of said medium supply sections, the supply sections across which the recording medium is arranged are driven by the driving section for driving one of those supply sections (Fig. 4, i.e. The scanner section 20 and the printer section 30 have paper conveyor systems which are partly common to each other. These sections 20 and 30, including the commonly used sensor section 206 and the motor and driving section 207, are under control of the scanner /printer control section 202. column 8, lines 62-67 thru column 9, lines 1-7).

Regarding claim 9; Kuriyama '634 discloses wherein each of said recording heads has a recording portion row in which a plurality of recording portions are arranged in a row with equal pitch (i.e. The recording head 40 has 64 nozzles Nos. 1 to 64 arranged in a single row which extends in the main-scan direction indicated by an arrow N. The pitch at which these nozzles are arranged is 1/360 inch) in a supply direction in which the recording medium is supplied and as for two said recording heads that are arranged next to each other in a direction orthogonal to said supply direction, a distance between the rearmost recording portion, in said supply direction, of the recording portion row of one of the two recording heads and the foremost recording portion, in said supply direction, of the recording portion row of the other of the two recording heads is equal to said pitch (Fig. 8, i.e. The amount of conveyance of the paper performed by the conveyor motor 217 corresponds to the length of the nozzle row. After forming one-line image by selectively activating 64 nozzles, the paper is fed by an amount corresponding to 64 dot pitches, i.e., 64/360 inch, thus preparing for the printing of the next line. Column 8, lines 24-37);

Regarding claim 11, 12 & 13; Claims 11, 12 & 13 contains substantially the same subject matter as claim 1. Therefore, claim 11, 12 & 13 are rejected on the same grounds as claim 1. However, the only difference is that claim 11 incorporates computer-readable storage medium having recorded thereon a computer program for a recording apparatus. Kuriyama '634 discloses a computer-readable storage medium at column 4, lines 50-52.

6. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuriyama '634, Barry '711 and Vives '304 as applied to claim 1, and further in view of Botten et al. (US 2003/0098984 A1, hereinafter Botten '984).

Regarding claim 8; Kuriyama '634 as modified does not expressly disclose a recording apparatus wherein each of said medium supply sections comprises a driving force blocking section that blocks a transmission path for transmitting driving force caused by said driving sections; and when supplying a recording medium with one of the supply sections across which the recording medium is arranged, the driving force blocking section of the medium supply section including the other supply section blocks the transmission path for transmitting the driving force caused by the driving section of that medium supply section.

Botten '984 discloses a recording apparatus wherein each of said medium supply sections comprises a driving force blocking section (Fig. 9a, Capstan Drive #80) that blocks a transmission path for transmitting driving force caused by said driving sections (i.e. The capstan drive 80 also engages a compliant belt drive 90 for transferring torque to output kickers after the media passes the print station to be dispense into an output tray 113 (FIG. 22). Page 4, Paragraph 0065);

and when supplying a recording medium with one of the supply sections across which the recording medium is arranged, the driving force blocking section of the medium supply section including the other supply section blocks the transmission path for transmitting the driving force caused by the driving section of that medium supply section (i.e. The clutch members 82 and 84 disengage the platen roller 76 from the capstan drive 80 to allow the capstan and pinch rollers 79 and 77 to pull the media sheet through the print station for transferring the desired image portion to the sheet. After the desired image portion is transferred to the media sheet, the platen roller 76 capstan and pinch roller may pull the trailing edge of the media sheet past the printhead 151. Page 8, Paragraph 0106).

Kuriyama '634 and Botten '984 are combinable because they are from same field of endeavor of printer systems ("*Embodiments of the present invention are directed to printing systems.*" Botten '984 page 1, paragraph 0002).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the printer system as taught by Kuriyama '634 by adding a recording apparatus with a driving force blocking section as taught by Botten '984. The motivation for doing so would have been because there is a need for a simpler and more cost effective alternative for providing precision imaging capabilities to printer systems. Therefore, it would have been obvious to combine Kuriyama '634 with Botten '984 to obtain the invention as specified in claim 1.

Examiner Notes

7. The Examiner cites particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully considers the references in its entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or as disclosed by the Examiner.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARCUS T. RILEY whose telephone number is (571)270-1581. The examiner can normally be reached on Monday - Friday, 7:30-5:00, est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marcus T. Riley
Assistant Examiner
Art Unit 2625

/MARCUS T. RILEY/
Examiner, Art Unit 2625

/David K Moore/
Supervisory Patent Examiner, Art Unit 2625